

REMARKS

The present application was filed on July 15, 2003 with claims 1-17.

Applicants have amended the specification to update related application information as per the suggestion of the Examiner.

Applicants respectfully traverse the objection to claim 1. The Examiner has apparently failed to appreciate that claim 1, following “steps,” already includes the recitation “of.” and accordingly the objection should be withdrawn.

Claims 1-13 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 7,013,255 (hereinafter “Smith”).

Claims 14-17 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith in view of an article by St. Hontas et al. (hereinafter “St. Hontas”).

Applicants respectfully traverse the §102(e) and §103(a) rejections. Applicants respectfully request reconsideration of the present application in view of the remarks below.

With regard to the §102(e) rejection, Applicants initially note that MPEP §2131 specifies that a given claim is anticipated “only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” citing Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, MPEP §2131 indicates that the cited reference must show the “identical invention . . . in as complete detail as is contained in the . . . claim,” citing Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Applicants respectfully traverse the §102(e) rejection on the ground that the Smith reference fails to teach or suggest each and every limitation of claims 1-13 as alleged.

Independent claim 1 is directed to a method of generating data traffic in a traffic generator. The method comprises the steps of generating a first type of traffic in accordance with a given distribution, and generating a second type of traffic different than the first type of traffic. The second type of traffic comprises at least one traffic burst, where the traffic burst is generated based at least in part on an amount of the first type of traffic generated over one or more time intervals. Thus, the claim calls for a traffic burst that is generated based at least in part on an amount of the first type of traffic generated over one or more time intervals.

In an illustrative embodiment of the invention, shown in FIG. 3, the first type of traffic is the comparative traffic shown at 310 as being generated in sample time slots. Such comparative traffic may be generated based on a Poisson distribution, a Gaussian distribution or another type of distribution. For each of the sample time slots in which the amount of comparative traffic generated in the interval is less than a comparison level 312, a designated amount 302 of compensatory burst traffic is accumulated in a burst container 300. A given burst of the second type of traffic is generated when the total amount of accumulated burst traffic in the burst container 300 reaches a specified burst size. See the specification at page 7, lines 12-16, and page 8, lines 13-28. Thus, this particular embodiment shows one example of an arrangement in which a traffic burst of the second type of traffic is based on an amount of the first type of traffic that is generated over one or more time intervals. Of course, the claim at issue will also cover numerous other embodiments, and this particular embodiment is being presented for purposes of illustration only.

The invention as set forth in claim 1 provides a number of significant advantages relative to conventional arrangements. The specification at page 13, lines 13-20, states as follows regarding an illustrative embodiment:

The present invention in the illustrative embodiment described above overcomes one or more of the drawbacks of the conventional techniques. For example, a traffic generator with an enhanced burst modeling feature in accordance with the invention provides improved efficiency and accuracy in modeling of “real-life” traffic behavior in a network-based communication system. A high degree of flexibility and user control in the burst generation process is provided. Also, the invention can be readily implemented in a practical hardware or software traffic generator. The invention allows a wide variety of burst-related processing applications, such as the benchmarking of communication systems against burst behavior, to be implemented in an efficient manner.

The Examiner in formulating the §102(e) rejection of claim 1 argues that each and every one of the above-noted limitations of claim 1 is anticipated by the teachings of Smith. Applicants respectfully disagree.

In characterizing the Smith reference as allegedly meeting certain limitations of claim 1, the Examiner relies primarily on method steps 108, 112, 124 and 132 of FIG. 3, and the description in column 2, lines 10-55, column 3, lines 24-45, and column 6, lines 15-45. More specifically, the Examiner argues that the recited first type of traffic is normal distributed traffic generated in step 112 in FIG. 3, and the recited second type of traffic is the lognormal distributed traffic generated in steps 108 or 124 in FIG. 3. However, if one assumes for purposes of argument that this particular correspondence drawn by the Examiner is correct, it becomes readily apparent that the claim limitations are not met. This is because the lognormal distributed traffic generated in steps 108 and 124 does not include a traffic burst that is generated based at least in part on an amount of normal distributed traffic generated in step 112 over one or more time intervals. Thus, the FIG. 3 arrangement fails to teach or suggest the recited generation of a traffic burst based at least in part on an amount of the first type of traffic generated over one or more time intervals.

To the contrary, step 112 appears to operate independently of steps 108 or 124. For example, with regard to step 124, that step appears to be carried out only when a predetermined traffic mix as defined in element 100 does not contain data, while the step 112 appears to be carried out only when the predetermined traffic mix of element 100 does contain data. See step 100 and its two possible outcomes. Thus, the operations of the two generation steps 112 and 124 appear to be entirely independent of one another. Steps 108 and 112 are also believed to operate independently of one another, as is readily apparent from, for example, column 6, lines 58-67, which indicates that the total numbers of values generated in steps 108 and 112 are typically equivalent to the respective numbers of data packets having respective normally distributed packet interarrival times and lognormally distributed packet interarrival times.

Applicants further note that FIG. 3 in Smith is described as a flow diagram of a method for operating the architecture of FIG. 2. See Smith at column 6, lines 15-16. It is apparent from the FIG. 2 architecture that Smith discloses an arrangement in which operation of normal random number generator 62 is independent of the operation of lognormal random number generator 66. This can be seen, for example, in the fact that the normal and lognormal random generators 62 and 66 of FIG. 2 operate based on respective inputs 54 and 58 that represent respective numbers of packets from input stream 22 that have respective normally distributed packet interarrival times and

lognormally distributed packet interarrival times. See Smith at column 5, lines 53-66. Neither of the generators 62 or 66 generates a traffic burst that is based at least in part on an amount of traffic generated by the other. This is true even in the case of the bimodal traffic referenced by the Examiner. It can be seen from, for example, column 3, lines 24-40, that the numbers of packets having respective normal and lognormal distributions in the bimodal traffic are determined independently from one another. The amount of normal traffic generated over one or more time intervals does not appear to influence in any way the generation of a traffic burst of the lognormal traffic.

Since Smith fails to teach or suggest each and every limitation of independent claim 1, that claim is not anticipated by Smith.

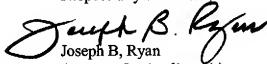
Independent claims 12, 16 and 17 are believed allowable for reasons similar to those identified above with regard to claim 1. It is believed that the St. Hontas reference fails to supplement the fundamental deficiencies of Smith as applied to claim 1.

Dependent claims 2-11 and 13-15 are believed allowable for at least the reasons identified above with regard to their respective independent claims. One or more of these dependent claims are also believed to define separately-patentable subject matter over the cited art.

Applicants have made a clarifying amendment to dependent claim 6. Support for the amendment can be found in the specification at, for example, page 6, line 22, to page 7, line 2, and page 8, lines 18-20.

In view of the above, Applicants believe that claims 1-17 are in condition for allowance, and respectfully request withdrawal of the §102(e) and §103(a) rejections.

Respectfully submitted,



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